

ABSTRACT

The present invention concerns a system 10 using optical time-domain reflectometry (OTDR) to test a plurality of optic fibre lines 13 in a telecommunications network, more particularly suited to tree topology networks of PON type (Passive Optical Network). Said system comprises a plurality of fibre optic lines 13, a coupler 7 having one input and a plurality of outputs, each of said outputs being connected to one line of said plurality of lines 13, said system 10 being characterized in that it comprises means 14 for separating each of said lines 13 into two channels: a first channel 18 to receive a first test impulse corresponds to a first test and a second channel 19 to receive a second test impulse corresponding to a second test, the length of said second channel being greater than the length of said first channel by a predetermined overlength 15, each of said overlengths 15 being different for each of said lines 13.